From: Newlon, Thomas A. [thomas.newlon@stoel.com]

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To: Mednick, Richard [Mednick.Richard@epa.gov]

Subject: What's left behind and why it matters

Attachments: FW: EWG Presentation to Muckleshoot and Suquamish

Hi Richard: Thanks for our recent chats. Following up on the issue of what is achievable in the EWW, I wanted to pass along the presentation I was telling you about that the EWG gave to the Tribes a little over a month ago. Slide #11 in the attached presentation shows the EWW areas where full dredging is not feasible (under the piers, keyways and structural slopes). Carbon treatment will be applied under the piers to reduce the bioavailability of PCBs. The carbon treatment mitigates, but does not eliminate, the effect of leaving higher concentrations behind in those areas. That was my understanding, which I have now confirmed with the FS consultant. That reduction was factored into the FS analyses and comparisons of alternatives, which all show that concentrations will drop significantly following active remediation and treatment, but never get down to either: 1) natural background, or 2) the concentrations in incoming sediments (primarily from upstream, but also from lateral loads). The reason concentrations will stay somewhat elevated above those in incoming sediments is the "vertical mixing" that's graphically shown on slide #13 of the presentation.

Natural recovery will, over time, reduce the effect of having to leave higher concentrations behind in a significant portion of the site; however, that effect is not eliminated even over very long time periods due to the effect of ongoing vertical mixing caused primarily by vessel traffic and the EWW's use as a major shipping terminal waterway. Significant resuspension and redistribution of the higher-concentration sediments in the areas where removal via dredging cannot practicably be performed is unavoidable when giant ships with giant engines and giant propellers are maneuvering in tight quarters.

So what does that mean for EPA's remedy decision? It means that even if you calculate an anthropogenic background number for use as a substitute for the natural background PCB cleanup level, you'll need to waive that anthropogenic background number in order to have a final ROD that matches up with reality. Sure, modeling is uncertain and we don't know for sure what the concentration of PCBs in EWW sediments will ultimately be. But we do know that EWW surface sediment concentrations will be higher than incoming sediment concentrations for the foreseeable future. They have to be, due to what's left behind and the high degree of mixing that will continue to occur. So an anthropogenic background value calculated per EPA guidance (which doesn't consider left-behind site material) cannot be rationally supported as representing an implementable/achievable final cleanup level.

If Region 10 remains convinced that a "replacement cleanup level" is needed before an ARAR that cannot practicably be achieved is waived (which we still disagree with), then the only rational thing to do for the EWW is calculate that replacement PCB value based on what FS analyses show is likely to be *achievable*. If it's calculated based on either EPA's anthropogenic background guidance or Ecology's SMS process for determining regional background, you'll end up with a number that cannot be supported as one we can anticipate meeting (because neither of those two values can consider left-behind site contamination). And if you can't anticipate meeting it, then you can't validly issue a final ROD saying that all cleanup standards will be met. That leaves you with waiver as the only way to meet the NCP remedy selection requirement that standards be met or waived.

As a consequence of the above, a final ROD that uses a replacement PCB cleanup level will only be supportable if it uses a replacement value that FS (and perhaps subsequent) analyses show is likely achievable. Because that value has to be higher than any value authorized by the SMS (regional or natural background), the SMS human health standards for PCBs will have to be waived for a defensible final ROD to be issued. The SMS do not allow for a human health cleanup value that is higher than regional background, so a waiver will be necessary.

But fear not, all is not doom and gloom. The FS analyses already include a calculation of what's likely to be achievable for a long term PCB surface sediment concentration. So if Region 10 feels a replacement value is needed, why not issue a final ROD that waives SMS human health requirements for PCBs and substitutes the FS "expected long term value"

number (which I believe is something like 57 ppb). If Region 10 now thinks that the FS analyses were not sophisticated enough, or need to be updated with new sediment trap or other data, then that work can be done in parallel with implementation of a final EWW ROD. If the new work shows that a different long term value is more likely, then amend the ROD to plug in the new value. I'm not sure what the benefit of any such exercise would be, as it would not change the remedy at all or result in any incremental new environmental or human health protection (that is, whatever that long-term level turns out to be, it will be produced by what is already contemplated for the remedy, namely, source control and all practicable active remediation that will result in meaningful risk reduction). But if EPA thinks, after 30+ years of study, that more study is needed, then there's no reason that a refinement of FS analyses could not be performed following issuance of a final ROD and initiation of its implementation.

The bottom line that I wanted to make sure you understood is that there is no defensible path forward that does not include a waiver of SMS PCB human health standards in the final ROD, whether that ROD is initially issued as final or as interim. That being the case, why not issue it as final and get moving with this cleanup? Thanks. Tom

Thomas A. Newlon

STOEL RIVES LLP | 600 University Street, Suite 3600 | Seattle, WA 98101-4109

Direct: (206) 386-7677 | Fax: (206) 386-7500 | Cell: Ex. 6 Personal Privacy (PP) thomas.newlon@stoel.com

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